

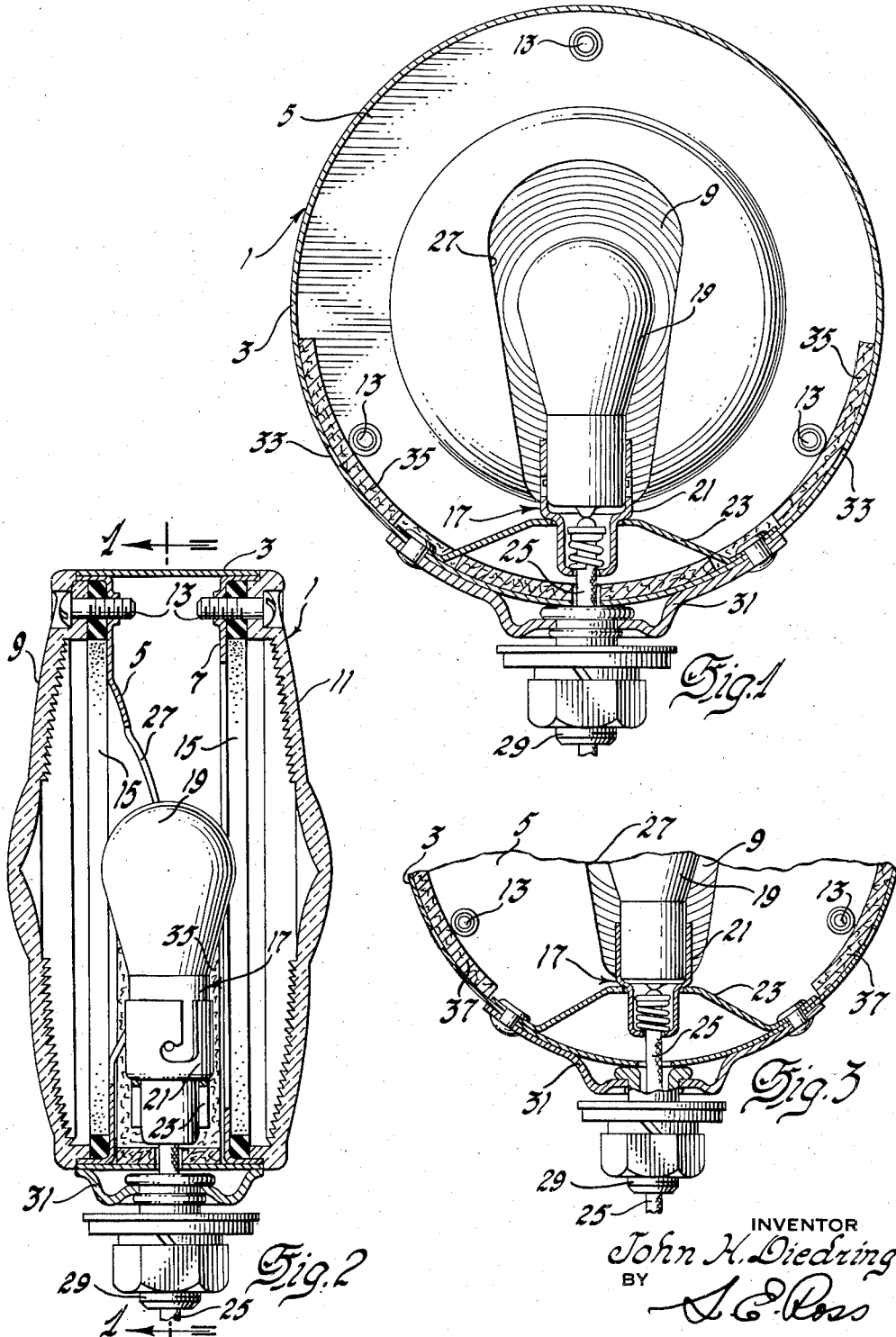
April 22, 1958

J. H. DIEDRING

2,831,964

WATER DRAINAGE FROM VEHICLE LAMPS

Filed March 9, 1954



1

2,831,964

WATER DRAINAGE FROM VEHICLE LAMPS

John H. Diedring, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Application March 9, 1954, Serial No. 414,948

2 Claims. (Cl. 240—41)

This invention relates to the drainage of water from vehicle lamps and more particularly to the drainage of lamps adapted to be mounted in a plurality of positions.

One of the problems associated with the design of vehicle lamps is the provision of adequate means for draining water from the lamp casing in order to preclude rusting and possible shorting of the electrical circuit. In order to overcome this problem, it has become accepted practice to provide at least one drain aperture in the lowermost portion of the lamp casing.

However, it is readily apparent that such an expedient is limited in utility to only those lamps which are to be mounted in but a single position, that which positions the lamp casing with the drain aperture in its lowermost portion. It is equally apparent that the provision of a plurality of circumferentially spaced apertures, while providing drainage in a plurality of mounting positions, would at the same time weaken the lamp casing and provide a plurality of openings for the entrance of dust and dirt, etc.

It is therefore an object of my invention to provide simple and inexpensive means for enabling drainage of water from vehicle lamps which are adapted to be mounted in a plurality of positions. It is another object of my invention to provide a vehicle lamp adapted to provide water drainage through a plurality of lamp mounting positions and at the same time seal the lamp casing against the entrance of contaminants.

To attain these objects, I provide at least one aperture in the lamp casing and a strip of wicking material secured to the inner surface of the casing, over the aperture and extending on each side thereof.

Further objects and advantages of the present invention will be apparent from the following description, reference being made to the accompanying drawing wherein a preferred form of the present invention is clearly shown.

In the drawing:

Figure 1 is a sectional view taken on line 1—1 of the lamp shown in Figure 2.

Figure 2 is a sectional view of a lamp showing the details of my invention.

Figure 3 is a sectional view with parts broken away of a lamp showing a modification of my invention.

Referring now to the drawings and more particularly to Figure 1, there is shown a turn signal lamp 1 of the type adapted for use on motor vehicles for signaling to both oncoming and following vehicles. The lamp 1 comprises a cylindrical casing 3 having an inwardly dished and centrally apertured shield plate 5 secured on its forward end and having an annular plate 7 secured on its rear end thus forming a cylindrical body assembly. An amber lens 9 and a red lens 11 are positioned on plates 5 and 7, respectively, and are removably secured thereto by such means as bolts 13. A resilient sealing gasket 15 is positioned between each lens and plate in order to insure a dust and water proof connection. A light source

2

17, the bulb 19 and socket 21, are mounted within the casing 3 by means of a bracket 23.

The ends of bracket 23 are secured to the casing in any suitable manner, i. e., riveting, the lower end of socket 21 being positioned on its middle portion. A wire 25 is passed through an aperture in the casing 3 and serves to connect the lamp 1 in the signal circuit. As is clearly shown on Figures 1 and 2, the shield plate 5 is provided with an elongated aperture 27 of such dimensions as to permit the dished portion to be positioned about the light source 17 thus forming two separate compartments having the same source of light. The lamp 1 is adapted to be secured to the vehicle by means of mounting bolt 29 secured to the lamp casing 3 by means of a bracket 31. As shown, the bolt 29 is hollow in order to accommodate the wire 25, though this is by no means essential to my invention.

Lamps of the type described are commonly used on commercial and military type vehicles and are subject to being mounted in a plurality of positions other than the vertical position thus making for a drainage problem where a single lamp model is to be used. In accordance with my invention, lamp drainage is made possible regardless of the mounting position. As is best shown in Figure 1, the lamp casing 3 is provided with two apertures 33, one aperture about 60° each side of the vertical center line of the lamp. A piece of wicking material 35, i. e., a pad formed of felt, cotton, wool, asbestos, etc., is secured to the inner surface of the casing 3 over the apertures 33 and extends on each side thereof. This wick 35 acts to absorb any water entering the lamp 1, the water being then conveyed by capillary action to the apertures 33 where it is evaporated. The wicking shown on Figure 1 will drain the lamp in mounting positions up to about 90° each side of the vertical center line. It should be noted that by means of my invention, the lamp 1 is likewise sealed against entry of any contaminants through the drain holes 33.

In the embodiment shown in Figure 3, advantage is made of the fact that the casing 3 is apertured at the bottom to admit wire 25. Where the wire 25 is not sealed therein, as by a grommet or by the close sliding fit between the wire insulation and the edge of the casing defining the aperture, drainage may be accomplished through this aperture when the lamp 1 is mounted vertically. It is thus no longer necessary to extend the wick between the drain apertures 33. Drainage in mounting positions up to about 90° each side of the vertical center line may be accomplished by securing a separate piece of wicking material 37 over each aperture 33 and extending on each side thereof. Where a hollow mounting bolt is used, water may be drained therethrough to the underside of the vehicle mounting surface.

It is apparent from the above description that I have provided a simple and inexpensive method for enabling the drainage of water from a lamp casing irrespective of the lamp mounting position. My invention has the further advantage that the lamp is sealed against the entry of dust and dirt through the drainage apertures. Though I have shown and described my invention as applied to a specific type of lamp having two drain apertures, it should be understood that my invention is applicable to any type lamp having one or more drain apertures.

While the foregoing embodiment of the invention as herein disclosed, constitutes a preferred form, it is to be understood that other forms might be adopted, as may come within the scope of the claims which follow.

What is claimed is:

1. In a vehicle lamp, the combination comprising a cylindrical casing, a shield plate secured to the inner surface

3

of said casing at its forward end, an annular plate secured to the inner surface of said casing at its rear end, a lens removably secured on the outer surface of each plate, a sealing gasket positioned between each said lens and said plate to weatherseal said casing, a light source positioned within said casing, said casing having an aperture therein for admission of an electrical conductor to said light source and a pair of spaced apart drain apertures positioned in said casing one on each side of said aperture, a wicking pad extending between and covering said drain apertures for evaporating water from said casing, and a mounting bolt secured to said casing adjacent said electrical conductor aperture.

2. In combination, a lamp casing, a lens secured on said casing, a light source positioned within said casing, said casing having an aperture therein for passage of an electrical conductor to said light source, a pair of spaced

4

apart drain apertures positioned one on each side of the vertical centerline of said lamp, a wicking pad extending between and covering said drain apertures for evaporating water from said casing, and a mounting bolt secured to said casing.

References Cited in the file of this patent

UNITED STATES PATENTS

10	1,473,400	Dunn	Nov. 6, 1923
	1,569,907	Beard	Jan. 19, 1926
	1,584,369	Graham	May 11, 1926
	2,465,762	Supplee	Mar. 29, 1949
	2,491,124	Martin	Dec. 13, 1949
15	2,637,804	Hollins	May 5, 1953

FOREIGN PATENTS

575,976	Great Britain	Mar. 13, 1946
---------	---------------	---------------